



OSGi Alliance IoT Vision

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IIC/OSGi Liaison Workshop

24-MAY-2018





The World of IoT is...



Relevant to many domains

- Smart Home, Smart City, Vehicles, Agriculture,...
- Many customized solutions

Highly fragmented

- 450 IoT Platforms in 2017 (Source: IoT Analytics)
- Many companies start with building their own “Micro”-ecosystems

Growing Complexity

- E.g. Smart Home is part of Smart Grid, Smart Grid is part of Smart City

Software is distributed

- Sensor, Edge Devices, IoT Gateways, Clouds, ..





Standards are the only way to
manage this growing complexity
and diversity

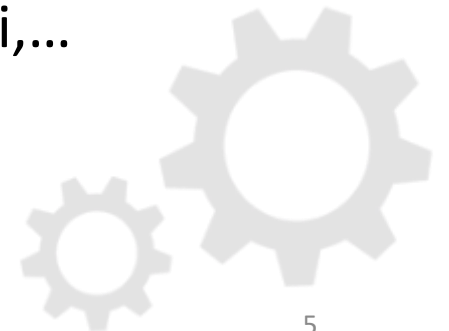




Challenges and Requirements in Building IoT Solutions



- How to **Avoid Vendor Lock-in**
- **Software Component Development & Maintenance**
 - **Adaption / Evolution** of the runtime
 - **Loss of knowledge** base of legacy systems (dead sea effect)
- Integration of **many heterogeneous systems**
 - IoT Solutions / Platforms need to **integrate with existing legacy systems**
- **Device Connectivity**
 - **Protocols:** ZigBee, Bluetooth LE, OPC-UA,...
 - **Device Abstraction Layers:** oneM2M, W3C Web of Things, OSGi,...
 - **Domain Specific Semantics:** EEBus, AGORA,...
- **Device Management & Software Management**
- **Security & Privacy**





OSGi Alliance IoT Vision (1)



- **Enable Developers to do Software Modularity the right way**
 - **Generically usable in e.g. IoT/Edge Gateways and Cloud Environments**
 - **Reusability** of self-describing software components across physical borders
 - **Ease of Integration** of components provided by different suppliers
 - Prevents you creating **new legacy systems**, allowing to change your decision later
 - As Complexity is tamed - **Total Cost of Ownership is reduced**
 - Continue enhancing **OSGi enRoute** to get started





OSGi Alliance IoT Vision (2)

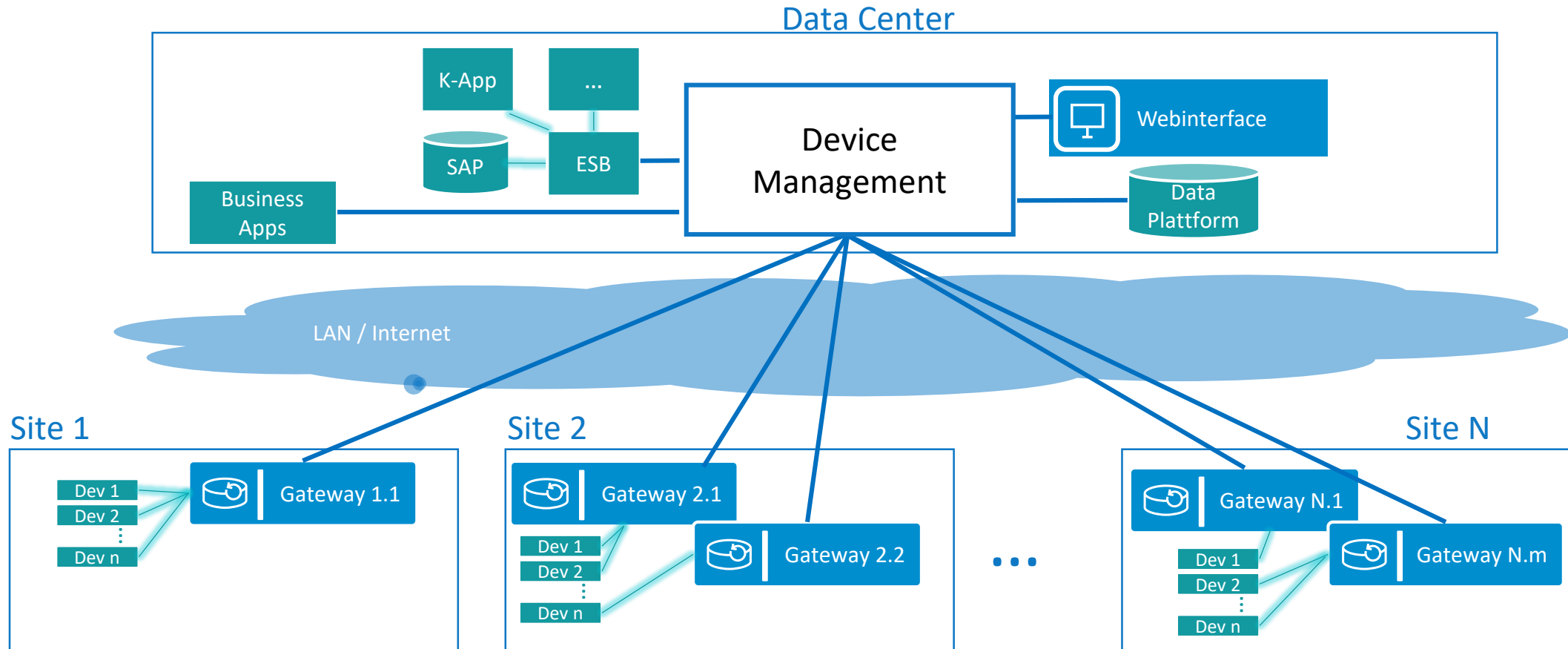


- Standardized way of doing **Device Management & Software Provisioning**
 - **Specifications for TR-069 and OMA-DM** available since many years
 - OSGi provides a standardized way to **manage requirements & capabilities**
- **Enabling Device Connectivity & Interoperability**
 - **Standardized protocol adapters** for e.g. ZigBee, EnOcean, MQTT, etc.
 - Interoperability to **device abstraction layers**, e.g. **oneM2M, W3C Web of Things**
 - Interoperability with **Semantic Technologies like EEBus, AGORA, etc.**

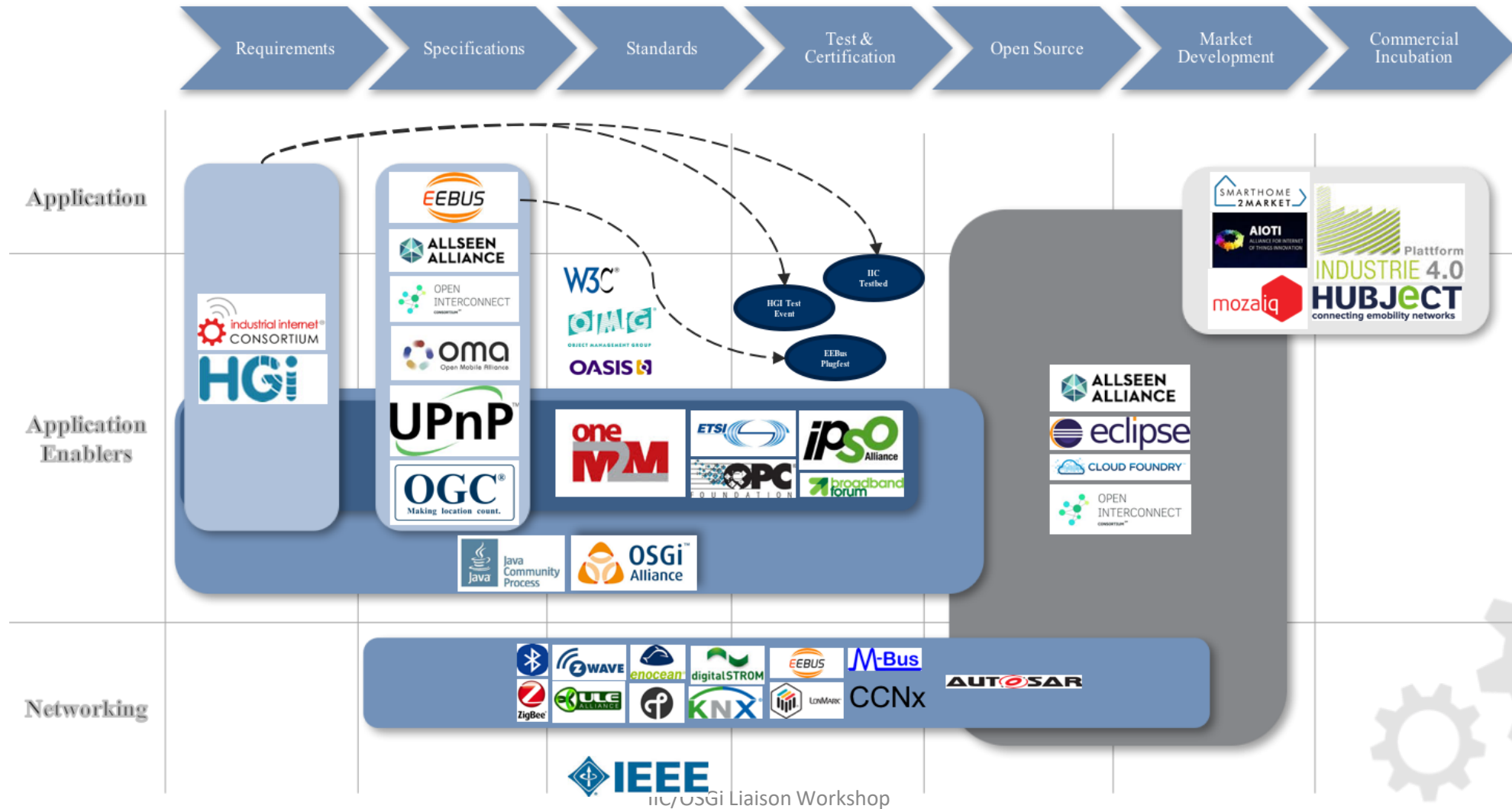




How to manage requirements and capabilities with OSGi



Mapping of IoT Industry Alliances





Nobody can do IoT alone



Potential joint activities

- Mapping on IIC Requirements (e.g. from IIRA) vs. OSGi existing specifications
- Coordinate on definition of requirements for new OSGi specifications
- Cooperation on IIC Testbeds
- Joint white papers / best practices e.g. on implementation specific use cases at the Edge Tier
- Support industry by defining concrete implementation requirements in RFPs
- Coordinate to co-locate meetings once per year ?

